'ALMONGA', A NEW SPANISH PLANCHADA DRY BEAN.

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INTRODUCTION

Current bean breeding program at ITACyL (Instituto Tecnológico Agrario de Castilla y León) started in 1987, yielding fourteen varieties until now. The main objective of this program is to introduce bacterial and viral resistance into landraces, preserving quality characteristics of the seed. Registered cultivars belong to different Spanish market classes, prevailing large white seeded beans, although canela, cranberry and red seeded beans are also presented.

One of these varieties is 'Almonga' that is a white large dry bean (57 g 100 seed^{-1}) of "planchada" market class, and was developed and released in 2002 by the ITACyL, Valladolid, in cooperation with the Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (INIA), Spain. Almonga is a high culinary quality cultivar with resistance to halo blight caused by *Pseudomonas syringae* pv. *phaseolicola* (Burkholder 1926) Young, Dye & Wilkie 1978], *Bean common mosaic virus* (BCMV, potyvirus), and *Bean common mosaic necrosis virus* (BCMNV, potyvirus).

DESCRIPTION

Almonga was derived from the cross ZJ-724/4J-132-1_92. Landrace ZJ-724 has large white flat seeds and indeterminate growth habit Type IIIb, high culinary quality, and moderate resistance to halo blight. Early maturing halo blight tolerant F_4 breeding line 4J-132-1_92 was derived from the cross 'Cueto'/'Jules' using the pedigree method. Cueto is a white kidney selection from a landrace. Cueto has growth habit Type I, high culinary quality, and is susceptible to BCMV, BCMNV, and halo and common bacterial blight [caused by *Xanthomonas campestris* pv. *phaseoli* (Smith) Dye] (Asensio Vegas et al., 1990). Jules is a great northern dry bean cultivar tolerant to common and halo bacterial blights (Coyne and Schuster, 1970). Almonga possesses the recessive *bc-1*^{2} resistance allele derived from great northern Jules via breeding line 4J-132-1_92. Thus, in greenhouse tests, Almonga was resistant to BCMV (US-6 strain) and BCMNV (NL-3K strain) and was also resistant to races 1, 2, 5, 7, and 9 of *P. syringae* pv. *phaseolicola* in both leaf and pod, and moderately resistant to race 6 in pod. Almonga is susceptible to common bacterial blight.

Almonga was tested in replicated yield trials in five locations in Spain during 5 yr. Mean seed yield for Almonga was 2976 kg ha^{-1} compared with 1719 kg ha^{-1} for Cueto. Almonga bloomed in an average of 50 d and matured in 102 d after planting. Almonga plants have an indeterminate prostrate growth habit Type IIIb, dull green leaves, and white flowers. Almonga pods are 170 mm long and have an average of five seeds per pod. Almonga has rhombohedric, shiny white seeds, high culinary quality with very soft integument, and highly buttery albumen, tested by a trained sensory panel. These characteristics are highly desired by Spanish consumers.

Breeder and Foundation Seed of Almonga will be maintained by Instituto Tecnológico Agrario de Castilla y León (ITACyL), Subdirección de Investigación y Tecnología, Departamento de Hortofruticultura y Protección Vegetal, Ctra. Burgos Km. 119, 47071 Valladolid, Spain. Small samples for research purposes can be obtained from the corresponding author.

'ALMONGA' DESCRIPTORS*

	Trait			Mean (Standard deviation))
Market class				Planchada
Phenology	Days to first flower			50.6 (6.42)
	Days to blooming end			85.5 (8.9)
	Blooming length			35.9 (4.4)
	Days to maturity			102.3 (15.6)
Plant	Growth habit			IIIb
	Length of internodes			3.0 (1.0)
	Number of nodes to flower			5.3 (1.6)
	Central Leaflet	Shape		Oval
		Length (mm)		9.2 (1.4)
		Width (mm)		6.1 (0.7)
		Size (mm)		55.6 (8.5)
		Hairiness		Short and sparse
	Flower	Color of the petals		White
		Color of the standard		White
		Outer base of the standard		Smooth and greenish
		Bracteole	Shape	Cordate
			Size	Medium
		Inflorescence		Multinode
	Pod	Length (mm)		169.4 (9.45)
		Width (mm)		13.3 (1.2)
		Height (mm)		5.7 (0.6)
		Weight (g) of ten pods		57,9
		Seeds per pod		4.8 (0.4)
		Thread		Highly present
		Pick origin		Placental
		Shape of pick		Bent
		Pods per plant		24 (5.5)
	Seed	Weight (g) of 100 seeds		56.7 (5.5)
		Width (mm)		9.8 (0.8)
		Length (mm)		18.46 (1.3)
		Height (mm)		5.98 (0.7)
		Shape		Rhombohedric
		Brightness		Bright
		Veins		Absent
		Color		White
		Pattern		Absent
Phaseolin seed protein				B
Yield (Kg/Ha)				2976 (639)
Cooking time				60'-70'

*Singh et al. (1991)

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